

### ABSTRACT

A method for transferring information within a cellular communications network (20), consisting of transmitting an optical carrier from a first network-element (26A) of the network, modulating the optical carrier (57, 59) with the information, and detecting the  
5 modulated optical carrier in an avalanche photo-diode (APD) (150) in a second network-element (24A) of the network so as to recover the information. The method includes altering a gain of the APD responsive to a level of the optical carrier so as to prevent saturation of the APD. Other methods and apparatus are also provided for transferring the information via the optical carrier, and also for using the information transferred.

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